



LATTA.002C3

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : **Latta, Paul P.**
Appl. No. : **10/660,924**
Filed : **September 12, 2003**
For : **PREVENTION OF DIABETES
THROUGH INDUCTION OF
IMMUNOLOGICAL
TOLERANCE**
Examiner : **Belyavski, Michail A.**
Group Art Unit : **1644**

SECOND DECLARATION OF DAVID SCHARP, M.D.
UNDER 37 C.F.R §1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

1. I, David Scharp, M.D., am Chief Scientific Officer of Novocell, Inc. At Novocell I am actively engaged in research related to development of treatment of diabetes using encapsulated insulin-producing cells.
2. I have extensive experience in the field of the claimed invention as indicated in the attached Curriculum Vitae provided herewith as Exhibit A.
3. There are two potential animal models for studying Type I diabetes, the BB rat and the NOD mouse. The BB rat, while developing diabetes, has a multitude of immunologic disorders that makes it more of a model for immune deficiency than diabetes. The BB rat is no longer considered an acceptable model for studying human autoimmune diabetes.
4. The NOD mouse is therefore, the only animal model for human autoimmune, Type I diabetes in that it is predictive of human disease. Its lymphocytes spontaneously begin attacking

Appl. No. : 10/660,924
Filed : September 12, 2003

its insulin-producing pancreatic beta cells soon after birth. Looking at the histology of the pancreas of these mice during the autoimmune process, one finds early that most islets are infiltrated with immune cells that are destroying islets. As the process continues towards the diabetic phase, almost all of the beta cells are destroyed leaving smaller than normal islets with residual inflammation that continues to destroy the new islets that are stimulated to develop due to the failing islet mass. This ongoing destruction of the insulin-producing pancreatic beta cells continues and progresses for 15 to 32 weeks until a sufficient number of beta cells are destroyed to cause the clinical onset of Type I diabetes in NOD mice. Examining living NOD mice prior to development of clinical diabetes, including monitoring their blood glucose levels, one would have no clue that this autoimmune process is actively destroying their pancreatic beta cells. Yet, if one examines their blood for anti-islet protein antibodies, one can clearly identify those animals that will eventually lose blood glucose control and develop clinical diabetes. This situation is identical for human Type I diabetes in that patients at high risk for developing Type I diabetes are tested for the presence of specific auto-antibodies. The number and titers of these specific antibodies can now predict with >90% certainty which of these patients with ongoing autoimmune destruction of their beta cells will actually develop clinical Type I diabetes within 5 years.

5. By following a large number of patients over time, it has been determined that there are clearly many years available in which to intervene in the auto-immune process prior to the development of clinical diabetes in an attempt to prevent it, if there were an effective prevention method available. Six drugs have been tried in patients with documented evidence of autoimmune diabetes to determine if human diabetes can be prevented. To date, such drug treatments have not been effective in preventing clinical diabetes in humans.

6. Our approach is totally different in that we are not giving drugs to prevent diabetes. Instead, we are implanting a very small fraction of encapsulated islet allografts into these NOD mice prior to the development of clinical diabetes in order to stop the onset of clinical, Type I diabetes. This fraction of encapsulated islets is so small it would have no effect on controlling blood glucose if given after diabetes had begun and therefore, is not a treatment for diabetes. We believe that the continuous release of donor antigens from the small fraction of encapsulated

Appl. No. : 10/660,924
Filed : September 12, 2003

islets that are not destroyed by the host, alters the auto-immune response in a way that the host no longer considers the islets to be foreign. In this way, the immune attack on the islets within the pancreas stops prior to the onset of clinical diabetes and thus prevents clinical diabetes.

7. In my previous declaration, filed on April 1, 2004, I presented the data from the NOD mouse study on Prevention of Type I diabetes. This data has now been summarized into two bar graphs to allow an easier analysis.

8. Islets from mouse strain C57Bl/6 were encapsulated by polyethylene glycol conformal coating as described in USP 5,529,914. This patent was incorporated by reference into the specification of the application captioned above. The conformally-coated islets were implanted by intraperitoneal injection into NOD mice. The experiment had two variables under study – time of implantation of the encapsulated islets (4, 8, and 12 weeks) and number of islets implanted (50, 100 and 150 islet equivalents, IEQ).

9. Exhibit 1 shows the data for all animals grouped by time of implantation. Implantation at 4 weeks showed the best results with diabetes being prevented in 60% of the treated animals, as compared to the control animals with none having diabetes prevented.

10. Exhibit 2 shows the data for all animals grouped by number of islets implanted. A dose of 50 IEQ produced the best results with diabetes being prevented in 60% of the treated animals. All the control animals developed diabetes.

11. Exhibit 3 demonstrates that in the control recipients (NOD mice not implanted with encapsulated islet cells), the autoimmune destruction of the pancreatic islets is very complete with small shrunken islets remaining with continuing evidence of lymphocytes destroying any new islets that are formed.

12. Exhibits 4 & 5 demonstrate that in those recipients that were prevented from developing diabetes after implanting the small quantity of encapsulated islets, very large islets (many times their normal size) are present, without evidence of host lymphocyte destruction. This means that the normal process in the mouse to replace lost islets has been successful to the point of preventing diabetes from destroying all of the newly formed islet cells.

13. This demonstrates that the method of the present invention prevents type I diabetes.

Appl. No. : 10/660,924
Filed : September 12, 2003

14. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or patent issuing therefrom.

Dated:

April 28, 2005

By:

David W. Scharp
David Scharp

1678364
042105



Prevention of Diabetes in NOD Mice with Implants of Encapsulated Islet Allografts

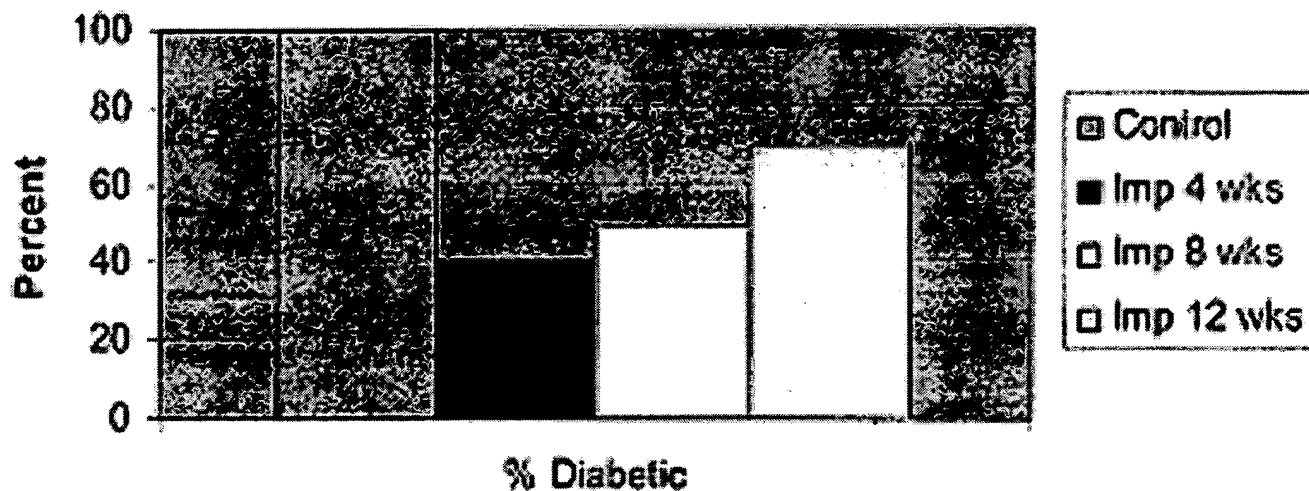


Exhibit 1

Prevention of Diabetes in NOD Mice with Implants of Encapsulated Islet Allografts

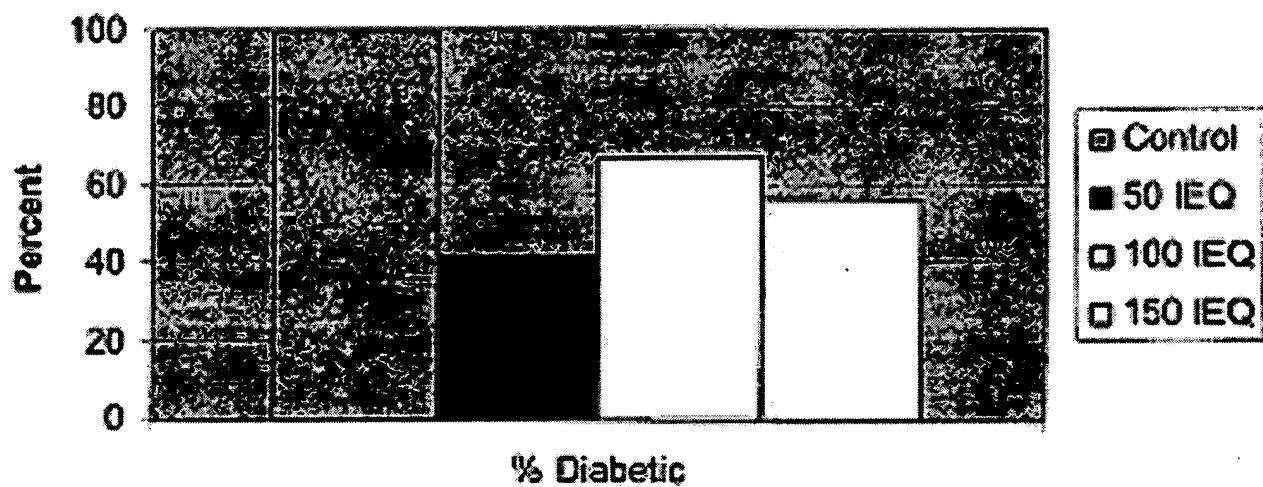


Exhibit 2

Appl. No. : **10/660,924**
Filed : **September 12, 2003**

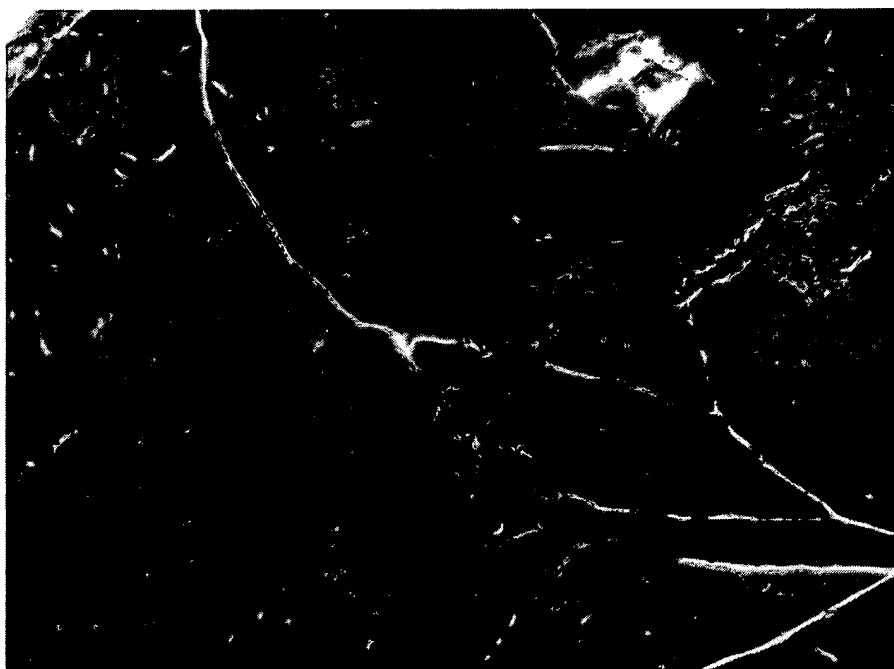


Exhibit 3

Appl. No. : 10/660,924
Filed : September 12, 2003

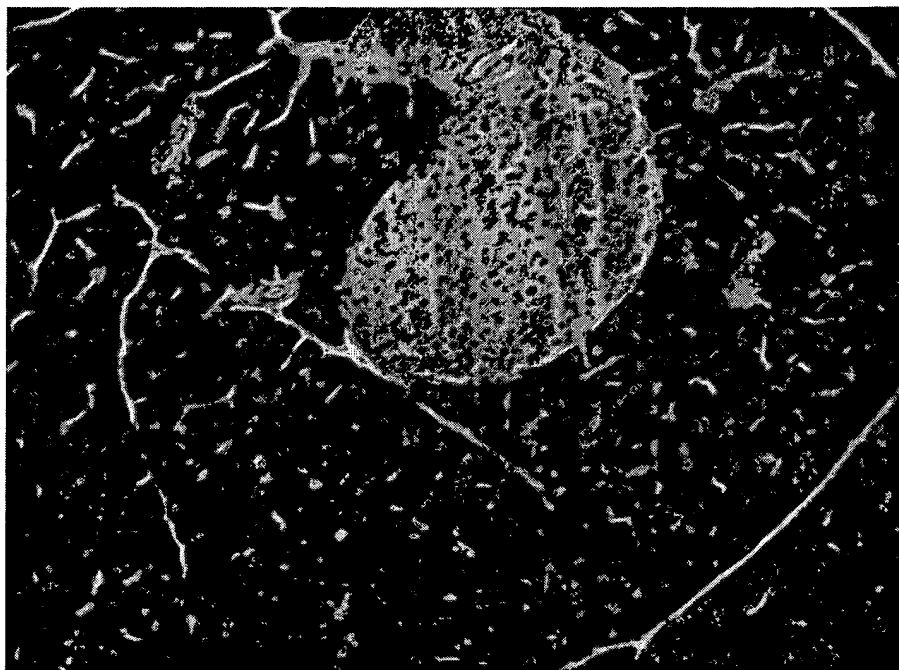


Exhibit 4



Exhibit 5

Exhibit A

CURRICULUM VITAE

David William Scharp, M.D.

Born: July 5, 1945
Washington, Illinois

Social Security Number: 327-36-7524

Marital Status: Wife: Jeanette

Children: Kevin Scharp
Daniel Scharp
Anna Scharp
David Bondurant
Melissa Bondurant

Pre-Medical Education: University of Missouri
Columbia, Missouri
1963-1966

Medical Education: Washington University School of Medicine
St. Louis, Missouri
1966-1970

Graduate Hospital Experience:

Intern in Surgery
7/1/70-6/30/71
Barnes Hospital/Washington University

Surgical Resident
7/1/71-6/30/72 & 7/1/74-6/30/76
Barnes Hospital/Washington University

Surgical Research Fellow
7/1/72-6/30/74
Washington University - Department of Surgery

Academic Positions:

Assistant Professor of Surgery
1976-1983
Washington University School of Medicine

Associate Professor of Surgery
1983-1991
Washington University School of Medicine

Professor of Surgery
1991-President
Washington University School of Medicine

Leave of Absence
1/1/94-7/1/95

Commercial Positions:

Novocell, Inc.
Chief Scientific Officer

Neocrin Company
Chief Scientific Officer 1/1/94-7/31/99
Executive Vice President of Medical Affairs 1/1/94-7/31/99
Executive Vice President for Research 1/1/94-11/1/95
Executive Vice President, Research and Development 11/1/95-President

McDonnell Douglas Corporation 1984-1987
Contractual Research Investigator
Electrophoretic Separation of Islet Cells

Cytotherapeutics, Inc. 1989-1993
Founding Scientist
Scientific Advisory Board Member
Contractual Research Investigator

Patents:

“Islet Isolation Process”

DE191613T – 1987
DE3650662D – 1998
EP0191613 – 1986
EP0191613 – 1989
EP0191613 – 1997
JP61183226 – 1986
US4868121 – 1989
US5322790 – 1994

“Method to Isolate Clusters of Cell Sub-Types from Organs”

AU1934988 – 1989
CA1340406 – 1999
EP0382727 – 1990
EP0382727 – 1991
JP2504222T – 1990
US5079160 – 1992
WO8809667 – 1988

“Implantable Biocompatible Immunoisulatory Vehicle for Delivery of Selected Therapeutic Products”

AT156344T – 1997
AU666118 – 1996
AU682796 – 1997
AU2004192 – 1992
AU3902095 – 1996
CA2109085 – 1992
CA2109085 – 2003
DE69221484D – 1997
DE69221484T – 1998
DK585368T – 1998
EP0585368 – 1994
EP0585368 – 1994
EP0585368 – 1997
ES2107537T – 1997
FI934545 – 1993
FI934545D – 1993
GR3025301T – 1998
HK1001832 – 1998
JP6507412T – 1994
NO308198B – 2000
NO933842 – 1993
SG47470 – 1998

US5798113 – 1998
US5800828 – 1998
US5871767 – 1999
US6083523 – 2000
US6322804 – 2001
US2002150603 – 2002
WO9219195 – 1992

“Methods for Coextruding Immunoisulatory Implantable Vehicles with a Biocompatible Jacket and a Biocompatible Matrix Core”

US5800829 – 1998

“Methods for Treating Diabetes by Delivering Insulin from Biocompatible Cell Containing Devices”

US5869077 – 1999

“Methods for Making Immunoisulatory Implantable Vehicles with a Biocompatible Jacket and a Biocompatible Matrix Core”

US5834001 – 1998

US5874099 – 1999

“Use of Pouch for Implantation of Living Cells”

AU4788993 – 1994

CA2140905 – 1994

EP0655910 – 1995

EP0655910 – 1996

JP8500033T – 1996

US5916554 – 1999

WO9403154 – 1994

Hospital Appointments:

Assistant Surgeon 1976-1983

Associate Surgeon - 1983-Present

Barnes Hospital, St. Louis, Missouri

Attending Surgeon 1982-1985

Consulting Surgeon 1976-1982

Associate Chief of Surgery 12/86-9/90

Veterans Administration Medical Center, St. Louis, Missouri

Consulting Surgeon 1985-7/95
Acting Chief of Surgery 3/86-12/86
St. Louis Regional Hospital, St. Louis, Missouri

Consulting Surgeon 1976-1985
St. Louis Children's Hospital, St. Louis, Missouri

Consulting Surgeon 1976-1985
Chief of Surgery 1981-1982
St. Louis County Hospital, St. Louis, Missouri

Attending Surgeon 1976-1982
St. Louis City Hospital, St. Louis, Missouri

Licensure: Missouri 1970

Certification: American Board of Surgery 1979
Fellow American College of Surgery 1982
Recertification: American Board of Surgery 1989

Medical Societies:

American College of Surgeons
American Diabetes Association
American Federation of Clinical Research
American Pancreatic Association
American Society for Artificial Internal Organs
American Surgical Association
Association for Academic Surgery
Society of University Surgeons
Tissue Culture Association
American Society of Transplant Surgeons
The Cell Transplantation Society
United Network of Organ Sharing - Region 8
International Pancreas & Islet Transplantation Association

Honors and Awards:

St. Louis Surgical Society Award for Research
Recipient 1973 & 1974
NIH Research Career Development Award
Recipient 1977-1982
NIH NAIMMDD Site Visit Teams
Member 1980-1995

NIH Surgery, Anesthesiology, and Trauma Study Section

Member 1985-1989

Reserve Member Status 1989-1995

World Journal of Surgery

Guest Editor - Islet Transplantation Symposium 1984

“Separation of Islet Cells in Microgravity by Continuous-Flow Electrophoresis”, NASA -
McDonnell Douglas Astronautics Corp. - STS-8, Space Shuttle, “Challenger”,
Experiment 1984

Editorial Reviewer:

Diabetes, Surgery, Journal Clinical Investigation

Grant Reviewer

Canadian Diabetes Association

Medical Research Council of Canada

National Surgical Advisor - Digestive Disease Center of Excellence -

The Humana Corporation 1986-1994

Alpha Omega Alpha - Washington University Chapter - Elected

Faculty Member January 1988

Outstanding Profession/Scientific Employee - Federal Employee of the Year Award

Program - St. Louis Federal Executive Board 1990

The Huddinge Hospital Transplant Lectureship - Annual Meeting of the Swedish Society for
Medical Science, Stockholm, Sweden, December 1990

Council Member - Cell Transplantation Society 1992-Present

Council Member - International Pancreas & Islet Transplantation Association 1993-Present

Editorial Board

Cell Transplantation 1992-1993

Transplantation Science

Committee Appointments:

Washington University Animal Studies Committee

Chairman 1991-1994

Washington University Medical Center Alumni Association

Committee Member 1991-1994

International Juvenile Diabetes Research Foundation Medical Science Review Committee
1990-1993

UNOS Pancreas Subcommittee Member 1991-1995

American Society of Transplant Surgeons Program and Publications Committee 1989-1991

Academic Freedom and Tenure Hearing Committee

Member 1985-1991

Washington University Committee on the Humane Care of Laboratory Animal Member

Member 1984-1990

Operating Room Technician Program
 Forest Park Community College
 Advisory Committee 1976-1995
 Chairman 1986-1995
 Mid-America Transplant Association
 Member Professional Advisory Board 1985-1995
 American Cancer Society Institutional Research Grants
 Washington University Committee for Cancer Research
 Member 1979-1989
 Chairman 1982-1989
 "Health Views" - Editorial Advisory Board
 Member 1984-1988
 American Diabetes Association, St. Louis Chapter
 Research Committee 1985-1988
 Department of Surgery Animal Facility
 Director 1980-1984
 Washington University Faculty Senate
 Member 1981-1983
 Executive Committee of the Faculty Council
 Member 1982-1984
 Clinical Sciences Research Building Animal Surgery Suite
 Director 1984-1985
 Department of Engineering Master Degree Thesis Review Committee:
 1979-John Bergen - "Kinetics of Insulin Secretion from Pancreatic Islets of Langerhans
 and Development of Islet Transplantation Chambers"
 1980-Paul Aegerter - "Microencapsulation of Living Cells to Prevent Immunological
 Response"
 1983-Shiow Meei Lin - "Testing of a Mathematical Model for Islet Transplantation
 Chambers"
 1987-Donna Wilkinson - "Coating of Live Cells with Polysaccharide Derivatives"
 1989-Mary Blanchard - "Quantification of Low Concentrations of Polysaccharide
 Derivatives and Their Effect on Cell Viability"
 1990-Ph.D. Thesis Review, Donna Hawk-Reinhard - "Purification of Pancreatic Islets of
 Langerhans Using Cell Electrophoresis"
 St. Louis VAMC Committees
 Comprehensive Planning Committee
 Chairman 1988-1990
 Administrative Executive Board 1988-1990
 Professional Standards Board 1988-1990
 Research Committee 1988-1994
 District Planning Board 1988-1990

Barnes Hospital Committees

Chaplaincy Committee 1992-1994

Emergency Room Committee 1978-1984

Search Committee for ER Director 1978-1984

Patient Education Parent Committee 1979

Surgery Patient Education Subcommittee Chairman 1981-1988

Tissue Culture Association

Publicity Chairman 1980

Invited Presentations, Selected:

The Kroc Foundation

Islet Transplantation Workshop 1974

Islet Transplantation Workshop 1979

Islet Transplantation Workshop 1982

National Institutes of Health

National Conference on Diabetes 1979

National Conference on Diabetes 1983

Juvenile Diabetes Foundation

Conference on Research Tissue 1981

National Meeting, Keynote Speaker 1984

International Scientific Research Conference 1985

German Diabetes Association, Giessen, West Germany

Islet Transplantation Workshop 1980

Islet Transplantation Workshop 1989

American Society of Artificial Organs

Annual Meeting - Keynote Speaker 1983

Session Co-Chairman 1987

International Symposium on Organ Transplantation in Diabetes

The Hague, Netherlands 1983

International Symposium on Kidney and Pancreas Transplantation

Perugia, Italy 1984

International Islet Transplantation Workshop

Canberra, Australia 1984

XII Congress of the International Diabetes Federation

Madrid, Spain 1985

XIII Congress of the International Diabetes Federation

Sydney, Australia 1989

National Disease Research Interchange

Human Tissue Conference 1985

Human Tissue Conference 1986

Human Tissue Conference 1987

Human Tissue Conference 1990

National Disease Research Interchange - Chairman of Task Force on "Biohazard and Contamination in the Use of Human Tissue and Organs"
 Philadelphia, PA 1988
 American Diabetes Association National Meeting - Session Co-Chairman for "Forms of Therapy" 1986
 Visiting Scientist Program - University of Kansas Diabetes Center
 Kansas City, Kansas 1986
 Immunology of Diabetes Symposium - Member of International Advisory Committee
 Edmonton, Canada 1986
 International Symposium on Complications of Diabetes
 The Hague, Netherlands 1986
 Visiting Professorship - Department of Surgery - University of Minnesota
 Minneapolis, Minnesota 1986
 May 8th Endocrine Days
 Victoria, British Columbia 1987
 Second Annual Visiting Professorship in Diabetes - University of Wisconsin
 Madison, Wisconsin 1987
 First International Course on Transplantation
 Venice, Italy 1987
 Progress in Organ Transplants, Tissue Replacements and Implants
 Sponsored by Biomedical Business International, New York 1987
 Josiah Brown Memorial Symposium on Pancreas Beta Cell Transplantation
 Los Angeles, California 1987
 Seventh Workshop of the AIDSPIT Study Group
 Igls, Austria 1988
 First international Congress on Pancreatic and Islet Transplantation
 Stockholm, Sweden 1987
 Thirty-Fourth Annual Meeting of ASAIO, Invited Speaker "Modern Treatment of Insulin Dependent Diabetes"
 Reno, Nevada 1988
 Sixth Gordon Research Conference on Drug Carriers in Biology and Medicine
 Plymouth, New Hampshire 1988
 XII International Congress of the Transplantation Society
 Sydney, Australia 1988
 Second International Congress on Pancreatic and Islet Transplantation
 Minneapolis, Minnesota 1989
 Biology of Tissue Transplantation Symposium
 Bethesda, Maryland 1989
 Ninth Workshop of the AIDSPIT Study Group
 Igls, Austria 1990
 Society for Surgery of the Alimentary Tract Postgraduate Course, "Medical Aspects of Transplantation of the Liver, Pancreas and Intestine"
 San Antonio, Texas 1990

Moderator for Pancreas Transplantation Scientific Session - American Society of Transplant Surgeons

Chicago 1990

UCLA Symposium on Molecular & Cellular Biology, "Tissue Engineering"

Keystone, Colorado 1990

The Huddinge Hospital Transplant Lectureship Annual Meeting of the Swedish Society for Medical Science

Stockholm, Sweden 1990

Third International Congress on Pancreatic and Islet Transplantation - Moderator and Plenary Speaker

Lyon, France 1991

European Association for the Study of Diabetes - Plenary Speaker

Dublin, Ireland 1991

Visiting Professor - University of Wisconsin

Madison, Wisconsin 1991

Moderator for Clinical Transplantation-Pancreas and Islets - XVIth International Congress of the Transplantation Society

Paris 1992

American Diabetes Association 53rd Annual Meeting - Plenary Speaker

Las Vegas, Nevada 1993

Fourth International Congress of Pancreas and Islet Transplantation - Plenary Speaker

Amsterdam 1993

IVth Joint Meeting of the Lawson Wilkins Pediatric Endocrine Society and the European Society for Pediatric Endocrinology - Symposium Speaker

San Francisco 1993

American Association for Clinical Chemistry

New York 1993

Publications

Abstracts:

1. Ballinger, W.F., Lacy, P.E., Scharp, D.W., Kemp, C.B., Knight, M. - Isografts and allografts of pancreatic islets in rats. *Brit. J. Surg.* 60:313, 1973
2. Kemp, C.B., Knight, M.J., Scharp, D.W., Lacy, P.E., Ballinger, W.F. - Islets of Langerhans injected into the portal vein of the diabetic rat. *South African Journal of Surgery* 11:135, 1973
3. Kemp, C.B., Knight, M.J., Scharp, D.W., Lacy, P.E., Ballinger, W.F. - Proceedings: Implantation of pancreatic islets into the portal vein of diabetic rats. *Brit. J. Surg.* 60:907, 1973
4. Scharp, D.W., Kemp, C.B., Knight, M.J., Murphy, J., Newton, W., Ballinger, W.F., Lacy, P.E. - Long term results of portal vein islet isografts and allografts in the treatment of Streptozotocin induced diabetes. *Diabetes* 23:359, 1974
5. Scharp, D.W., White, D.J., Ballinger, W.F., Lacy, P.E. - Transplantation of intact islets of Langerhans after tissue culture. *In Vitro* 9:364, 1974
6. Knight, M.J., Scharp, D.W., Kemp, C.B., Nunnelley, S.B., Ballinger, W.F., Lacy, P.E. - Cryopreservation of pancreatic islets. *European Surgical Research* 6(1):89, 1974
7. Ballinger, W.F., Murphy, J.J., Scharp, D.W., Hirshberg, G.E., Karl, R.C., Lacy, P.E. - Isolation and preservation of human islets of Langerhans for transplantation in the treatment of diabetes. *European Society for Exp. Surg., Tenth Congress* 1975
8. Griffith, R.C., Scharp, D.W., Ballinger, W.F., Lacy, P.E. - A morphologic study of intrahepatic portal vein islet isografts. *Diabetes* 34(2):419, 1975
9. Dodi, G., Scharp, D., Feldman, S., Maresca, B., Ballinger, W., Lacy, P. - Treatment of exocrine pancreatic dysfunction in diabetic rats by islet transplantation. *European Surgical Research* 9(1):98, 1977
10. Scharp, D.W., Merrell, R.C., Feldman, S., Ruwe, E., Feldmeier, M., Ballinger, W., Lacy, P. - Long term culture of islets of Langerhans utilizing a rotational culture method. *In Vitro* 13:174, 1977
11. Scharp, D., Krupin, T., Waltman, S., Oestrich, C., Feldman, S., Ballinger, W., Becker, B. - Relationship of abnormal insulin release to fluorophotometry in experimental diabetes. *Diabetes* 27(2):435, 1978

12. Scharp, D.W., Merrell, R.C., Feldmeier, M.M., Downing, R., Ballinger, W.F. - Pseudo-islet formation and culture from canine isolated pancreatic cells. *In Vitro* 15:216, 1979
13. Rajotte, R.V., Scharp, D.W., Downing, R. Molnar, G.D., Ballinger, W.F. - The transplantation of frozen-thawed rat islets transported between centers. *Diabetes* 28:377, 1979
14. Downing, R. Scharp, D.W., Grieder, M., Ballinger, W.F. - Mass isolation of islets of Langerhans from the dog pancreas. *Diabetes* 28:426, 1979
15. Feldman, S.D., Scharp, D.W., Lacy, P.E., Ballinger, W.F. - Fetal pancreas isografts, cultured and uncultured to reverse Streptozotocin induced diabetes mellitus. *The Association for Academic Surgery* 12:116, 1979
16. Grieder, M.H., DeSchryver-Kecsckemeti, K. Gingerich, R.L., Scharp, D.W. - In vitro studies using canine pseudo-islets and rat antrum cultures as models. *UCLA Symposium*, December 3, 1979
17. Scharp, D.W., Feldmeier, M.M., Rajotte, R.V., DeSchryver, K., Bell, M. - Human pseudo-islet formation, culture and preservation. *Diabetes* 29(2):18A, 1980
18. Gingerich, R.L., Scharp, D.W., Grieder, M.H., Dye, E.S., Mousel, K.A. - A new in vitro model to study secretion and biochemistry of pancreatic polypeptide (PP). *Diabetes* 29(2):30A, 1980
19. Bergen, J.F., Mason, N.S., Scharp, D.W., Sparks, R.E. - Insulin inhibition of islets in transplantation chambers. Presented at International Society for Artificial Organs Meetings, Paris, July 8-10, 1981
20. Sparks, R.E., Mason, N.S., Finley, T.C., Scharp, D.W. - Development, testing and modeling of an islet transplantation chamber, *ASAIO Meetings*, Chicago, April, 1982
21. Long, J.A., Adair, W.S., Scharp, D.W. - Hybridoma production against pancreatic cells. *Diabetes* 31(2):20A, 1982
22. Scharp, D.W., Hirshberg, G., Long, J.A. - The effect of islet dosage and time on rat portal vein isografts. *Diabetes* 31(2):162A, 1982
23. Scharp, D.W., Lacy, P.E. - The isolation and alteration of islet tissue for transplantation. *The Tissue Culture Association Meeting*, San Diego, June, 1982. *In Vitro Suppl.* 1, 1982
24. Long, J.A., Adair, W.S., Scharp, D.W. - An immunological approach to islet cell purification. *J. Cell Biol.* 95:4061, 1982

25. Sparks, R.E., Mason, N.S., Finley, T.C., Scharp, D.W. - Design of islet transplantation chambers giving a normal glucose tolerance test. ISAO Meetings, Kyoto, Japan, November, 1983
26. Sparks, R.E., Mason, N.E., Finley, T.C., Scharp, D.W. - Islet transplantation chamber models - assumption for insulin generation and glucose diffusion. International Symposium on Organ Transplantation in Diabetes, The Netherlands, September, 1983
27. Sparks, R.E., Mason, N.S., Scharp, D.W. - Some present directions in research on tissue transplantation chambers. International Conference on Artificial Organs, Glasgow, Scotland, September, 1983
28. Sparks, R.E., Mason, N.S., Finley, T.C., Scharp, D.W. - "A distributed source-model for hybrid artificial pancreas", presented by ASAIO, Toronto, Ontario, Canada, April, 1983
29. Scharp, D.W., Feldmeier, M.M., Olack, B.J., Swanson, C.J., O'Shaughnessey, S.F. - Electrophoretic purification of islet cells for transplantation. Diabetes 33(1):179A, 1984
30. Scharp, D.W., Rajotte, R.V., Kneteman, N.M., Lacy P.E. - Zero gravity electrophoresis of islet cells. 10th International Congress of the Transplantation Society Meeting, Minneapolis, August, 1984
31. Scharp, D.W., Lacy, P.E. - Human islet isolation and transplantation. Diabetes 34(1):5A, 1985
32. Kneteman, N.M., Alderson, D., Scharp, D.W. - Canine pancreatic islet allotransplantation: dose adjusted cyclosporine A vs azathioprine - steroid, Diabetes 34(1):62A, 1986
33. Alderson, D., Kneteman, N.M., Scharp, D.W. - The isolation of purified human islets of Langerhans. Diabetes 34(1):81A, 1986
34. Corlett, M.P., Fonseca, P., Scharp, D.W. - Detrimental effect of warm ischemia on islet isolation in rats and dogs with protection by oxygen free radical scavengers. Diabetes 36(1):223A, 1987
35. Scharp, D.W., Lacy, P.E., Finke, E.H., Olack, B.J. - Seven day culture of Ficoll purified human islets. Diabetes 36(1):222A, 1987
36. Corlett, M.P., Scharp, D.W. - Effect of warm ischemia on islet isolation in rats and dogs. The Association for Academic Surgery, Orlando, Florida, November 1-4, 1987
37. Misler, S., Gee, W., Scharp, D., Manchester, J., Falke, L. - Metabolically regulated potassium channels in human islet cells. Diabetes 37(1):6A, 1988

38. Atkinson, M.A., Maclaren, N.K., Riley, W.J., Scharp, D.W., and Holmes, L. - M_r 64,000 autoantibodies (64KA) predict insulin dependent diabetes (IDD). *Diabetes* 37(1):98A, 1988
39. Scharp, D.W., Lacy P.E., Ricordi, C., Boyle, P., Santiago, J.V., Gingerich, R.L., Anderson, C.B., Flye, M.W. - Human islet transplantation in patients with Type I diabetes. Presented at XII International Congress of the Transplantation Society, Sydney, Australia, August 14-19, 1988
40. Riley, W.J., Maclaren, N.K., Atkinson, M.A., Scharp, D.W., Lacy, P.E. - Islet autoantibodies in "prediabetes". Ninth International Workshop on the Immunology of Diabetes, Satellite Symposium on Beta Cell Destruction and Restoration in Type I Diabetes. November 27-29, Sydney, Australia, 1988
41. Atkinson, M.A., Maclaren, N.K., Riley, W.J., Scharp, D.W., Holmes, L. - The natural history and predictive value of M_r 64,000 islet cell antigen. Ninth International Workshop on the Immunology of Diabetes, Satellite Symposium of the International Diabetes Federation, Melbourne, Australia, 1988
42. Scharp, D.W., Chern, H.T., McCullough, C.S., Gingerich, R.L. - Lack of glucose induced insulin responsiveness in canine islets. 49th Annual Meeting of the American Diabetes Association, Detroit, Michigan, June 3-6, 1991. *Diabetes* 38(1):209A, 1989
43. Chern, H.T., Scharp, D.W., McCullough, C.S. - Cryogenic storage of purified canine islets. 49th Annual Meeting of the American Diabetes Association, Detroit, Michigan, June 3-6, 1989. *Diabetes* 38(1):246A, 1989
44. Callery, M.P., Ricordi, C., Scharp, D.W., Kamei, T., Lacy, P.E., Flye, M.W. - Hepatic insufficiency following portacaval shunting is prevented by prior intraportal pancreatic islet autotransplantation. The Society of University Surgeons, Baltimore, Maryland, 1989
45. Scharp, D.W., Corlett, M.P., Ricordi, C., Lacy, P.E. - Microbial contamination risk in human islet isolation. Study Group of the European Association for the study of Diabetes, Igls, Austria, 1989
46. Ricordi, C., Lacy, P.E., Socci, C., Finke, E.H. Dye, E., Olack, B.J., Swanson, C., Scharp, D.W. - Pancreatic islet isolation in mammals: Developments of the automated method. Study Group of the European Association for the Study of Diabetes, Igls, Austria, 1989
47. Callery, M.P., Kamei, T., Flye, M.W., Scharp, D.W. - Intrahepatic islet autografts in dogs function despite completely diverting portacaval shunt (PCS). Second International Congress on Pancreatic and Islet Transplantation, Minneapolis, Minnesota, 1989

48. McCullough, C., Chern, H.T., Scharp, D.W., Swanson, C.J., Olack, B.J., Davis, C.G. - Influence of transplant site on efficiency of canine islet cell auto-transplantation. Second International Congress on Pancreatic and Islet Transplantation, Minneapolis, Minnesota, 1989
49. Scharp, D.W. - islet Preservation - Short term for quality control testing. Presented at The Third International Conference on The Use of Human Cells, Tissues and Organs in Research. Washington, D.C., September 17-18, 1998
50. Falqui, L., Kowalski, L., Bittner, P., Olack, B.J., Scharp, D.W., Lacy, P.E. - Immunosuppressive regimens to prolong survival of islet xenografts transplanted across a wide species barrier (dog to mouse). Ninth Workshop of the AIDSPIT Study Group, Igls, Austria, January, 1990
51. Scharp, D.W., Lacy, P.E., Santiago, J.V., Boyle, P.J., Weide, L., Falqui, L., Marchetti, P., Gingerich, R.L., Cryer, P.E., Jaffe, A.S., McCullough, C.S., Anderson, C.B., Flye, M.W. - A clinical trial of islet transplantation. Ninth Workshop of the AIDSPIT Study Group, Igls, Austria, January, 1990
52. Marchetti, P., Falqui, L., Scharp, D.W., Lacy, P.E. - An improved method for large scale isolation of pure, viable islets of Langerhans from the adult porcine pancreas. Ninth Workshop of the AIDSPIT Study Group, Igls, Austria, January 1990
53. Scharp, D.W., Lacy, P.E., Santiago, J.V., McCullough, C.S., Weide, L.G., Falqui, L., Marchetti, P., Gingerich, R.L., Cryer, P.E., Jaffe, A.S., Anderson, C.B., Flye, M.W. - Preliminary results of clinical trials of human islet transplants. American Society of Transplant Surgeons 16th Annual Scientific Meeting, Chicago, Illinois, May 30-June 1, 1990
54. Marchetti, P., Scharp, D.W., Finke, E.H. - The isolation, function and xenotransplantation of porcine islets of Langerhans (PIL). 50th Annual Meeting of the American Diabetes Association, Atlanta, Georgia, June 16-19, 1990
55. Scharp, D.W., Lacy, P.E., McCullough, C.S., Weide, L., Boyle, P., Santiago, J.V., Gingerich, R., Cryer, P., Anderson, C.B., Flye, M.W. - Intraportal human islet transplants. XIII International Congress of The Transplantation Society, San Francisco, California, August 19-24, 1990
56. Finke, E.H., Marchetti, P., Swanson, C.J., Falqui, L., Lacy, P.E., Scharp, D.W. - Large scale isolation, function and transplantation of islets of Langerhans. XIII International Congress of the Transplantation Society, San Francisco, California, August 19-24, 1990
57. Olack, B.J., Swanson, C.J., McLearn, M., Longwith, J., Scharp, D.W., Lacy, P.E. - Islet purification using Euroficoll gradients. XIII International Congress of the Transplantation Society, San Francisco, California, August 19-24, 1990

58. Scharp, D.W. - Clinical Trials. Presented at The Third International Conference on The Use of Human Cells, Tissues and Organs in Research. Washington, D.C., September 17-18, 1990
59. Swanson, C.J., Olack, B.J., Marchetti, P., Scharp, D.W. - Long-term metabolic and hormonal changes after intrasplenic canine islet transplantation. Fourteenth International Diabetes Federation Congress, Washington, D.C., June 23-28, 1991
60. Olack, B.J., Marchetti, P., Swanson, C.J., Kneteman, N.M., Scharp, D.W. - No adverse effects of Cyclosporine A on either oral or intravenous glucose tolerance tests in Transplanted Dogs. Fourteenth International Diabetes Federation Congress, Washington, D.C., June 23-28, 1991
61. McLear, M., Marchetti, P., Gingerich, R., Scharp, D.W. - The function of isolated human islets In Vitro. Fourteenth International Diabetes Federation Congress, Washington, D.C., June 23-28, 1991
62. Marchetti, P., Swanson, C.J., Olack, B.J., McCullough, C.S., Scharp, D.W. - The effect of islet transplant site and mass on long-term metabolic function of canine islet autografts. Fourteenth International Diabetes Federation Congress, Washington, D.C., June 23-28, 1991
63. Olack, B.J., Hill, A.C., Scharp, D.W., Lacy, P.E. - Automated purification of canine islets. Third International Congress on Pancreatic and Islet Transplantation, Lyon, France, June 6-8, 1991
64. McLear, M., Marchetti, P., Finke, E., Gerasimidi, A., Scharp, D.W., Lacy, P.E. - Porcine islet function: effects of arginine, leucine, and butyrate. Third International Congress on Pancreatic and Islet Transplantation, Lyon, France, June 6-8, 1991
65. Swanson, C.J., Marchetti, P., Newton, M., Scharp, D.W. - Effects of insulin therapy on glucose metabolism and insulin secretion in dogs and pancreatic islet autografts. Third International Congress on Pancreatic and Islet Transplantation, Lyon, France, June 6-8, 1991
66. Scharp, D.W., Lacy, P.E., Longwith, J.E. - Bacteriologic risks of human islet isolation for transplantation. Third International Congress on Pancreatic and Islet Transplantation, Lyon, France, June 6-8, 1991
67. Marchetti, P., Pfiffner, K., Scharp, D.W., Lacy, P.E., Gerasimidi, A., Finke, E.H. - Successful cryopreservation of porcine pancreatic islets (PI). Third International Congress on Pancreatic and Islet Transplantation, Lyon, France, June 6-8, 1991

68. Marchetti, P., Swanson, C.J., Finke, E.H., Gerasimidi, A., Scharp, D.W., Lacy, P.E. - In Vitro function and xenotransplantation of long-term (3 weeks) cultured porcine islets of Langerhans. First international Congress on Xenotransplantation. Minneapolis, Minnesota, August 25-28, 1991
69. Marchetti, P., Giannarelli, Scharp, D.W., di Carlo, A., McLearn, M., Lacy, P.E., Navalesi, R. - Metformin potentiates glucose stimulated insulin release: a study on diabetic patients and isolated human islets. European Association for the Study of Diabetes 27th Annual Meeting, Dublin, Ireland, September 10-14, 1991
70. Scharp, D.W., Marchetti, P., Swanson, C.J., Olack, B.J., Newton, M. - The effect of implantation site and islet mass on long-term survival and metabolic function of pure canine islet autografts. European Association for the Study of Diabetes 27th Annual Meeting, Dublin, Ireland, September 10-14, 1991
71. Marchetti, P., Finke, E., Pfiffner, K., Swanson, C., Gerasimidi-Vazeou, A., Olack, B., Scharp, D.W., Lacy, P.E. - Cryogenic storage of purified porcine islets. Presented at Study Group of the European Association for the Study of Diabetes, Igls, Austria, January 26-28, 1992
72. Scharp, D.W., Olack, B.J., Pfiffner, K., Gerasimidi-Vazeou, A., Finke, E.H., Lacy, P.E. - Preserving human islets prevents their rejection as xenografts. Presented at the First International Congress of the Cell Transplant Society, Pittsburgh, Pennsylvania, May 31-June 3, 1992
73. Marchetti, P., Scharp, D.W., Olack, B.J., Swanson, C.J., Bier, D., Cobelli, C., Toffolo, G., Newton, M., Navalesi, R. - Glucose metabolism, insulin sensitivity and glucagon secretion in dogs with intraportal or intrasplenic islet autografts. Presented at the First International Congress of the Cell Transplant Society, Pittsburgh, Pennsylvania, May 31-June 3, 1992
74. Marchetti, P., Scharp, D.W., Olack, B.J., Swanson, C.J. - Prediction of islet autograft failure by fasting glucagon:insulin ratio. Presented at the XIV International Congress of the Transplantation Society, Paris, France, August 16-21, 1992
75. Flavin, K.S., Scharp, D.W., Lacy, P.E. - Pre-islet transplant evaluation of psychiatric status using the National Institute of Mental Health (NIMH) Diagnostic Interview Schedule (DIS). Presented at the American Diabetes Association Meetings, San Antonio, Texas, June 20-23, 1992
76. Hawk-Reinhard, D.R., Scharp, D.W., Sparks, R.E. - Buffer solution temperature and velocity profiles in vertical micro-electrophoresis. Presented at American Institute of Chemical Engineers, New York, NY, November, 1992

77. Marchetti, P., Scharp, D.W., Finke, E., Pfiffner, K., Swanson, C., Gerasimidi-Vazeou, A., Olack, B., Navalesi, R., Lacy, P.E. - Insulin release upon perfusion and xenotransplantation of cryopreserved porcine islets. Presented at European Association for the Study of Diabetes, Igls, Austria, January 1992
78. di Carlo, A., Scharp, D.W., Gingerich, R.L., Ansara, M., Olack, B., Navalesi, R., Swanson, C. - Effect of culture and cryopreservation on insulin release from isolated, perfused human islets. *Hormone and Metabolic Research* 25:52, 1993
79. Marchetti, P., Scharp, D.W., Finke, E., Swanson, C.J., Gerasimidi-Vazeou, A., Olack, B.J., Navalesi, R., Lacy, P.E. - Prolongation of pig-to-mouse islet xenograft survival. *Hormone and Metabolic Research* 25:62, 1993
80. Hegre, O., Laurance, M., Harvey, J., Dionne, K., Appel, M., Scharp, D., Lacy, P.E. - Species variation in insulin secretory capacity of isolated islets. *Hormone and Metabolic Research* 25:58, 1993
81. Marchetti, P., Scharp, D.W., McLearn, M., Finke, E.H., Olack, B.J., Swanson, C.J., Giannarelli, R., Navalesi, R., Lacy, P.E. - Pulsatile insulin secretion from isolated human pancreatic islets. Presented at the 53rd Annual Meeting of the American Diabetes Association Meeting, Las Vegas, Nevada, June, 1993
82. Shiroki, R., Poindexter, N., Mohanakumar, T., Scharp, D.W. - Rejection of human islet allografts in human lymphocyte reconstituted severe combined immunodeficient mice (Hu-Scid). Presented at the Fourth International Congress on Pancreas and Islet Transplantation, Amsterdam, The Netherlands, June, 1993
83. Marchetti, P., Scharp, D.W., Finke, E., Swanson, C.J., Gerasimidi-Vazeou, A., Olack, B.J., Navalesi, R., Lacy, P.E. - Effect of different temporary immunosuppressive therapies and low-temperature culture on pancreatic islet xenograft survival (pig-go-mouse). Presented at the Fourth International Congress on Pancreas and Islet Transplantation, Amsterdam, The Netherlands, June, 1993
84. Ansara, M.F., Saudek, F., Newton, M., Cryer, P.E., Scharp, D.W. - Islet transplantation prevents defective glucose counterregulation in diabetic dogs. Presented at the Fourth International Congress on Pancreas and Islet Transplantation, Amsterdam, The Netherlands, June, 1993
85. Scharp, D.W., Ansara, M.F., di Carlo, A., Flavin, K.S., White, N.H., Jendrisak, M.D., Lacy, P.E. - Intrasplenic islet transplants in kidney allograft recipients. Presented at the Fourth International Congress on Pancreas and Islet Transplantation, Amsterdam, The Netherlands, June, 1993

86. di Carlo, A., Scharp, D.W., Gingerich, R.L., Black, B.J., Swanson, C.J., Navalesi, R. - Insulin and glucagon release from isolated, perfused human islets following low temperature culture and cryopreservation. Presented at the Fourth International Congress on Pancreas and Islet Transplantation, Amsterdam, The Netherlands, June, 1993
87. Atkison, P., Zucker, P., Hramiak, I., Paul, T., McCallu, J., Stiller, K.C.R., Scharp, D.W., Lacy, P.E., Olack, B., Finegood, D.T. - Continued insulin dependence despite normal insulin sensitivity and graft insulin secretion in a kidney/islet transplant patient. Presented at the Fourth International Congress on Pancreas and Islet Transplantation, Amsterdam, The Netherlands, June, 1993
88. Scharp, D.W., Swanson, C.J., Olack, B.J., Latta, P.P., Hegre, O.D., Gentile, F., Lacy, P.E. - Encapsulated human islet allografts in non-diabetic, Type 1 and Type 2 diabetic recipients. Presented at The 13th Workshop of the AIDSPIT Study Group, Igls, Austria, January 23-25, 1994. *Horm. Metab. Res.* 26:76, 1994
89. Scharp, D.W., Ansara, M.F., Brennan, D.C., White, N.H., Flavin, K.S., Zukosky, J.M., Cryer, P.E., Lacy, P.E. - Modification in methodology results in improvement in simultaneous kidney-islet success. Presented at the XVth World Congress of The Transplantation Society, Kyoto, Japan, August 28-September 2, 1994
90. Scharp, D.W., Brennan, D.C., White, N.H., Flavin, K.S., Lacy, P.E. - Increased islet mass raises rate of insulin independence in islet transplant recipients. Presented at IPITA 1995 Congress, Miami, Florida, June 18-22, 1995

Articles:

1. Merrick, A.W., Scharp, D.W. - Electroencephalography of resting behavior in cattle, with observations on the question of sleep, *Am. J. Vet. Res.*, 32:1893-1897, 1971
2. Knight, M.J., Scharp, D.W., Kemp, C.B., Ballinger, W.F., Lacy, P.E. - Effects of cold storage on the function of isolated pancreatic islets, *Cryobiology*, 10:89-90, 1973
3. Kemp, C.B., Scharp, D.W., Knight, M.J., Ballinger, W.F., Lacy, P.E. - Importance of implantation site of pancreatic islet isografts in treatment of experimental diabetes, *Surgical Forum* 24:297-299, 1973
4. Kemp, C.B., Knight, M.J., Scharp, D.W., Lacy, P.E., Ballinger, W.F. - Transplantation of isolated pancreatic islets into the portal vein of diabetic rats, *Nature* 244:447, 1973
5. Scharp, D.W., Kemp, C.B., Knight, M.J., Ballinger, W.F., Lacy, P.E. - The use of Ficoll in the preparation of viable islets of Langerhans from the rat pancreas, *Transplantation* 16:686-689

6. Kemp, C.B., Knight, M.J., Scharp, D.W., Ballinger, W.F., Lacy, P.E. - Effect of transplantation site on the results of pancreatic islet isografts in diabetic rats, *Diabetologia* 9:489-491, 1973
7. Scharp, D.W., Murphy, J.J., Newton, W.T., Ballinger, W.F., Lacy, P.E. - Transplantation of islets of Langerhans in diabetic Rhesus monkeys, *Surgery* 77:100-105, 1975
8. Scharp, D.W., Murphy, J.J., Newton, W.T., Ballinger, W.F., Lacy, P.E. - Application of an improved isolation technique for islet transplantation in primates and rats, *Transplant. Proc.* 6(1):739-741, 1975
9. Feldman, S., Hirshberg, G., Dodi, G., Raizman, M., Scharp, D., Ballinger, W., Lacy, P.E. - Intrasplenic islet isografts, *Surgery* 82:386-394, 1977
10. Karl, R.C., Scharp, D.W., Ballinger, W.F., Lacy, P.E. - Transplantation of insulin-secreting tissues, *J British Society Gastroenterology - GUT* 18:1062-1072, 1977
11. Griffith, R.C., Scharp, D.W., Hartman, B.K., Ballinger, W.F., Lacy, P.E. - A morphologic study of intrahepatic portal vein islet isografts, *Diabetes* 26:201-214, 1977
12. Feldman, S., Scharp, D., Hirshberg, G., Dodi, G., Ballinger, W., Lacy, P.E. - Streptozotocin-induced liver tumors, *Transplantation* 24:152-154, 1977
13. Feldman, S., Dodi, G., Haid, K., Scharp, D., Ballinger, W., Lacy, P.E. - Artificial hybrid pancreas, *Surgical Forum* 28:439-441, 1977
14. Scharp, D.W., Merrell, R.C., Feldman, S.D., Downing, R., Lacy P.E., Ballinger, W. - The use of gyrotational culture for the preservation of isolated islets, *Surgical Forum* 29:100-102, 1978
15. Krupin, T., Waltman, S.R., Scharp, D.W., Oestrich, G., Feldman, S.D., Becker, D., Ballinger, W.F., Lacy, P.E. - Ocular fluorophotometry in experimental diabetes mellitus: The effect of pancreatic islet isografts, *Investigative Ophthalmology & Visual Science* 18:1185-190, 1979
16. Downing, R., Scharp, D.W., Ballinger, W.F. - An improved technique for the isolation and identification of mammalian islets of Langerhans, *Transplantation* 29:79-83, 1980
17. Lacy, P.E., Davie, J.M., Finke, E.H., Scharp, D.W. - Prolongation of islet allograft survival, *Transplantation* 27:171-174, 1979
18. Scharp, D.W., Downing, R., Merrell, R.C., Grieder, M. - Isolating the elusive islet, *Diabetes* 29(1):19-30, 1980

19. Downing, R., Scharp, D.W., Merrell, R.C., Grieder, M., Ballinger, W.F. - Venous versus ductal distension of the dog pancreas for isolation of islets, *Surgical Forum* 30:422-424, 1979
20. Merrell, R.C., Scharp, D.W., Gingerich, R., Feldmeier, M.M., Grieder, M., Downing, R. - New approaches to the separation of islet cells, *Surgical Forum* 30:303-305, 1979
21. Feldman, S.D., Scharp, D.W., Lacy, P.E., Ballinger, W.F. - Fetal pancreas isografts, cultured and uncultured, to reverse streptozotocin induced diabetes mellitus, *J. Surgical Research* 29:309-318, 1980
22. Grieder, M.H., Gingerich, R.L., Scharp, D.W. - In Vitro studies of canine pseudo-islets. UCLA Symposium - Cellular Basis of Chemical Messengers in the Digestive System", Los Angeles, January 16-18, 1980
23. Silberberg, R., Scharp, D.W., Lesker, P.A. - Biochemical studies of bone from diabetic rats and rats bearing transplanted pancreatic islets, *Experimental Cell Biology* 49:61-67, 1981
24. Rajotte, R.V., Scharp, D.W., Downing, R., Preston, R., Molnar, G.D., Ballinger, W.F. - Pancreatic islet banking: the transplantation of frozen-thawed rat islets transported between Centers, *Cryobiology* 18:357-369, 1981
25. Britt, L.D., Scharp, D.W. - Formation of pseudo-islets from neonatal pig pancreas, *Surgical Forum* 31:354-356, 1980
26. Britt, L.D., Stojeba, P.C., Scharp, C.R., Grieder, M.H., Scharp, D.W. - Neonatal pig pseudo-islets: A product of selective aggregation, *Diabetes* 30:580-583, 1981
27. Britt, L.D., Scharp, D.W., Lacy, P.E., Slavin, S. - Transplantation of islet cells across major histocompatibility barriers after total lymphoid irradiation and infusion of allogeneic bone marrow cells, *Diabetes* 31:36-38, 1982
28. Bergen, J., Mason, N.S., Scharp, D.W., Sparks, R.E. - Insulin inhibition of islets in transplantation chambers, *Artificial Organs* 5:787-791, 1981
29. Paquette, T.L., Gingerich, R., Scharp, D.W. - Altered amidation of pancreatic polypeptide in culture, *Biochemistry* 20:7403-7408, 1981
30. Schmidt, R.E., Scharp, D.W. - Axonal dystrophy in experimental diabetic autonomic neuropathy, *Diabetes* 31:761-770, 1982
31. Yasunami, Y., Lacy, P.E., Scharp, D.W., Britt, L.D. - Isolation and transplantation of islet cells from the neonatal pig pancreas, *Surgical Forum* 33, 359-361, 1982

32. Gingerich, R.L., Scharp, D.W., Grieder, M.H., Dye, E.S., Mousel, K.A. - A new in vitro model for studies of pancreatic polypeptide secretion and biochemistry, *Regulatory Peptides* 5:13-25, 1982
33. Scharp, D.W., Long, J.A. - Studies of islet isolation and transplantation, *Cryobiology* 20:129-137, 1983
34. Long, J.A., Britt, L.D., Olack, B.J., Scharp, D.W. - Autotransplantation of isolated canine islets, *Transplant Proc.* 15:1332-1338, 1983
35. Schmidt, R.E., Santiago, B.P., Olack, B.J., Scharp, D.W. - The effect of pancreatic islet transplantation and insulin therapy on experimental diabetic autonomic neuropathy, *Diabetes* 32:532-540, 1983
36. Giddings, S.J., Rotwein, P., Chirgwin, J.M., Scharp, D.W., Permutt, M.A. - Analysis of insulin gene expression in human pancreas, *Diabetes* 32:777-780, 1983
37. Scharp, D.W. - Isolation and transplantation of islet tissue, *World J. of Surgery* 8:143-151, 1984
38. Scharp, D.W., Mason, N.S., Sparks, R.E. - Islet immunoisolation: the use of hybrid artificial organs to prevent islet tissue rejection, *World J. of Surgery* 8:221-229, 1984
39. Scharp, D.W. - Clinical feasibility of islet transplantation, *Transplant Proc.* 16(3):820-825, 1984
40. Heiken, J.P., Balfe, D.M., Picus, D., Scharp, D.W. - Radical pancreatectomy: Postoperative evaluation by CT, *Radiology* 153:211-215, 1984
41. Martin, K.W., Morian, J.P., Jr., Lee, J.K.T., Scharp, D.W. - Demonstration of splenic artery pseudoaneurysm by Magnetic Resonance Imaging, *J. of Computer Assisted Tomography* 9(1):190-192, 1985
42. Downing, R., Morrissey, S., Kiske, D., Scharp, D.W. - Does the purity of intraportal islet isografts affect their endocrine function?, *J. Surg. Research* 41(1):41-46, 1986
43. Scharp, D.W., Lacy, P.E., Alderson, D., Kneteman, N.M. - The procurement and distribution of cadaver human pancreas for islet isolation and transplantation. The Use of Human Tissues and Organs for Research and Transplant: Proceedings of the Second International Conference: National Diabetes Research Interchange April 1986:61-70
44. Scharp, D.W., Alderson, D., Kneteman, N.M. - Optimization of islet preparations for clinical transplantation. *Transplant Proc.* 18(6):1814-1816, 1986

59. Ricordi, C., Scharp, D.W., Lacy, P.E. - Mass isolation of human pancreatic islets for transplantation. Proceedings from XXVI World Congress of the International College of Surgeons, Milan, Italy, July 3-9, 1988, Monduzzi Editore S.p.A.
60. Corlett, M.P., Scharp, D.W. - The effect of pancreatic warm ischemia on islet isolation in rats and dogs, *J. Surg. Research*, 45:531-536, 1988
61. Ricordi, C., Kneteman, N.M., Scharp, D.W., Lacy, P.E. - Transplantation of cryopreserved human pancreatic islets into diabetic nude mice, *World J. Surgery* 12:861-865, 1988
62. Misler, S., Gee, W.M., Gillis, K.D., Scharp, D.W., Falke, L.C. - A metabolite-regulated ATP-sensitive K⁺ channel in human pancreatic islet cells, *Diabetes* 38:422-427, 1989
63. Scharp, D.W., Lacy, P.E., Ricordi, C., Boyle, P., Santiago, J., Cryer, P., Gingerich, R., Jaffe, A., Anderson, C.B., Flye, M.W. - Human islet transplantation in patients with Type 1 diabetes, *Transplant Proc* 21 (No. 1):2744-2745, February 1989
64. Scharp, D.W. - Islet Transplantation, *Diabetes* 38: (Suppl. 1):323-325, 1989
65. Ricordi, C., Lacy, P.E., Scharp, D.W. - Automated islet isolation from human pancreas, *Diabetes* 38 (Suppl. 1):140-142, 1989
66. Kneteman, N.M., Alderson, D., Scharp, D.W., Lacy, P.E. - Prolonged cyropreservation of purified human pancreatic islets, *Diabetes* 38:176-178, 1989
67. Kneteman, N.M., Alderson, D., Scharp, D.W., Lacy, P.E. - Long-term cryogenic storage of purified adult human islets of Langerhans, *Diabetes* 38:386-396, 1989
68. Brelje, T.C., Scharp, D.W., Sorenson, R.L. - Three-dimensional imaging of intact, isolated islets of Langerhans using Confocal microscopy, *Diabetes* 38:808-814, 1989
69. Schmidt, R.E., Plurad, S.B., Olack, B.J., Scharp, D.W. - The effect of pancreatic islet transplantation and insulin therapy on neuroaxonal dystrophy in sympathetic autonomic ganglia of chronic Streptozotocin diabetic rats, *Brian Research* 497:393-398, 1989
70. Callery, M.P., Ricordi, C., Scharp, D.W., Kamei, T., Swanson, C.J., Lacy, P.E., Flye, M.W. - Hepatic insufficiency following portacaval shunting is prevented by prior intraportal pancreatic islet autotransplantation. *Surgery* 106:257-266, 1989
71. Dotta, F., Colman, P.G., Nayak, R.C., Lombardi, D., Scharp, D.W., Andreani, D., Pontieri, G.M., di Mario, U., Lenti, L., Eisenbarth, G.S. - Ganglioside expression in human pancreatic islets, *Diabetes* 38:1478-1483, 1989

72. Permutt, M.A., Koranyi, L., Keller, K., Lacy, P.E., Scharp, D.W., Mueckler, M. - Cloning and functional expression of a human pancreatic islet glucose-transporter cDNA, *Proc Natl Acad Sci USA* 86:8688-8692, 1989
73. Callery, M.P., Kamei, T., Flye, M.W., Davis, C.G., Swanson, C.J., Olack, B.J., Lacy, P.E., Scharp, D.W. - Intrahepatic islet autografts in dogs function despite completely diverting portacaval shunt, *Transplant Proc* 22:767-770, 1990
74. Scharp, D.W., Lacy, P.E., Santiago, J.V., McCullough, C.S., Weide, L.G., Falqui, L., Marchetti, P., Gingerich, R.L., Jaffe, A.S., Cryer, P.E., Anderson, C.B., Flye, M.W. - Insulin independence after islet transplantation into Type 1 diabetic patient, *Diabetes* 39:515-518, 1990
75. Atkinson, M.A., Maclaren, N.K., Riley, W.J., Scharp, D.W., Lacy, P.E. - 64,000 M_r autoantibodies as predictors of insulin dependent diabetes, *Lancet* 335:1357-1360, 1990
76. Scharp, D.W., Olack, B.J., Swanson, C.J., Marchetti, P. - Normal reproductive function in dogs with islet autograft, *Transplant Proc* 22(5):2403-2404, 1990
77. Chern, H.T., Scharp, D.W. - Viability assessment of cryopreserved canine islets in vivo, *Endocrine Surgery* 7(3):355-360, 1990
78. Medoff, G., Sagal, S., Krogstad, D., Peters, M., Hogan, J., Scharp, D. - Clinical Pathology Conference - Abdominal pain, fever, and weight loss in a 61 year-old Arabian Man, *Am J Medicine* 89:83-90, 1990
79. Ricordi, C., Gray, D.W.R., Hering, B.J., et al - Islet isolation assessment in man and large animals, *Acta Diabetol. Lat.* 27:185-195, 1990
80. Atkinson, M.A., Maclaren, N.K., Holmes, L., Scharp, D.W., Lacy, P.E., Riley, W.J. - The natural history and predictive value of M_r 64,000 autoantibodies for insulin-dependent diabetes mellitus, *J Autoimmunity* 3:41-45, 1990
81. Atkinson, M.A., Holmes, L.H., Scharp, D.W., Lacy, P.E., Maclaren, N.K. - No evidence for serological autoimmunity to islet cell heat shock proteins in insulin dependent diabetes, *J Clin Invest* 87:721-724, 1991
82. Scharp, D.W., Lacy, P.E., Santiago, J.V., McCullough, C.S., Weide, L.G., Boyle, P.J., Falqui, L., Marchetti, P., Ricordi, C., Gingerich, R.L., Jaffe, A.S., Cryer, P.E., Hanto, D.W., Anderson, C.B., Flye, M.W., - Results of our first nine intraportal islet allografts in Type 1, insulin-dependent diabetic patients, *Transplantation* 51:76-85, 1991
83. Finke, E., Marchetti, P., Falqui, L., Swanson, C., McLear, M., Olack, B., Scharp, D.W., Lacy, P.E. - Large scale isolation, function and transplantation of islets of Langerhans from the adult pig pancreas, *Transplant Proc* 23(1):772-773, 1991

84. Olack, B., Swanson, C., McLear, M., Longwith, J., Scharp, D.W., Lacy, P.E. - Islet purification using Euroficoll gradients, *Transplant Proc* 23(1):774-776, 1991
85. Scharp, D.W., Lacy, P.E., Weide, L.G., Marchetti, P., McCullough, C.S., Flavin, K., Santiago, J.V. - Intraportal islet allografts: the use of a simulation index to represent functional results, *Transplant Proc* 23(1):796-798, 1991
86. Falqui, L., Finke, E.H., Carel, J.C., Scharp, D.W., Lacy, P.E. - Marked prolongation of human islet xenograft survival (human to mouse) by low-temperature culture and temporary immunosuppression with human and mouse anti-lymphocyte sera, *Transplantation* 51:1322-1324, 1991
87. Scharp, D.W., Lacy P.E. - The clinical feasibility of human islet transplantation, *Clinical Diabetes* 42-45, May/June, 1991
88. Marchetti, P., Finke, E.H., Gerasimidi-Vazeou, A., Falqui, L., Scharp, D.W., Lacy P.E. - Automated large scale isolation, *in vitro* function and xenotransplantation of porcine islets of Langerhans, *Transplantation* 52:209-213, 1991
89. Kowalski, L., Falqui, L., Lacy, P.E., Scharp, D.W. - Production of marked prolongation of survival of canine islet xenografts in mice by antilymphocyte sera and L3T4 antibody, *Transplantation* 52:1094-1097, 1991
90. Marchetti, P., Swanson, C., McLear, M., Finke, E.H., Gerasimidi-Vazeou, A., Scharp, D.W., Lacy, P.E. - In vitro function and xenotransplantation of long-term (3 weeks) cultured porcine islets of Langerhans, *Transplant Proc* 24(2):637, 1992
91. Kneteman, N.M., Marchetti, P., Tordjman, K., Bier, D.M., Santiago, J.V., Swanson, C.J., Olack, B.J., Scharp, D.W. - Effect of cyclosporine on insulin secretion and insulin sensitivity in dogs with intrasplenic islet autotransplants, *Surgery* 111(4):430-437, 1992
92. Scharp, D.W., Marchetti, P., Swanson, C.J., Newton, M., McCullough, C.S., Olack, B.J. - The effect of transplantation site and islet mass on long-term survival and metabolic and hormonal function of canine purified islet autografts, *Cell Transplantation* 1:245-254, 1992
93. Misler, S. Barnett, D.W., Pressel, D.M., Gillis, K.D., Scharp, D.W., Falke, L.C. - Stimulus-secretion coupling in B cells of transplantable human islets of Langerhans: evidence for a critical role for Ca^{2+} entry, *Diabetes* 41:662-670, 1992
94. Marchetti, P., Scharp, D.W., Longwith, J.E., Swanson, C.J., Olack, B.J., Gerasimidi-Vazeou, A., Finke, E.H., Lacy, P.E. - Prevention of contamination of isolated porcine islets of Langerhans, *Transplantation* 53(6):1364-1366, 1992

95. Olack, B.J., Hill, A., Scharp, D.W., Lacy, P.E. - Automated purification of canine islets, *Transplant Proc* 24(3):1003-1004, 1992
96. Marchetti, P., Pfiffner, K., Scharp, D.W., Lacy, P.E., Gerasimidi-Vazeou, A., Finke, E.H. - Successful cryopreservation of porcine pancreatic islets, *Transplant Proc* 24(3):1005-1006, 1992
97. Scharp, D.W., Lacy, P.E., McLearn, M., Longwith, J.E., Olack, B.J. - The bioburden of 590 consecutive human pancreata for islet transplant research, *Transplant Proc* 24(3):974-975, 1992
98. McLearn, M., Marchetti, P., Finke, E., Gerasimidi-Vazeou, A., Scharp, D.W., Lacy, P.E. - Porcine islet function: Effects of arginine, Leucine, and Butyrate, *Transplant Proc* 24(3):980-982, 1992
99. Marchetti, P., Finke, E.H., Swanson, C., Gerasimidi-Vazeou, A., Olack, B., Scharp, D.W., Navalesi, R., Lacy, P.E. - The potential of porcine islet xenotransplantation in the therapy of diabetes, *Diab. Nutr. Metab.* 5 (Suppl 1):151-154, 1992
100. Marchetti, P., Scharp, D.W., Olack, B.J., Swanson, C.J., Bier, D., Colelli, C., Toffolo, G., Newton, M., Navalesi, R. - Glucose metabolism, insulin sensitivity and glucagon secretion in dogs with intraportal or intrasplenic islet autografts, *Transplant Proc* 24(6):2828-2829, 1992
101. Marchetti, P., Olack, B., Swanson, C., Newton, M., Scharp, D.W. - Assessment of long-term (1 year) graft survival and metabolic hormonal changes after intrasplenic canine pancreatic microfragment transplantation, *Diabetes & Metabolism* 19:17-24, 1993
102. Barnett, D.W., Pressel, D.M., Chern, H.T., Scharp, D.W., Misler, S. - cAMP-Enhancing agents "permit" stimulus-secretion coupling in canine pancreatic islet β -cells, *J. Membrane Biol* 138:113-120, 1994
103. Ansara, M.F., Saudek, F., Newton, M., Cryer, P.E., Scharp, D.W. - Pancreatic islet transplantation prevents defective glucose counter-regulation in diabetic dogs, *Transplant Proc.* 26(2):664-665, 1994
104. Shiroki, R., Poindexter, N., Mohanakumar, T., Scharp, D.W. - Rejection of human islet allografts in human lymphocyte-reconstituted severe combined immunodeficient mice, *Transplant Proc.* 26(2):716-717, 1994
105. Marchetti, P., Scharp, D.W., Finke, E., Swanson, C.J., Gerasimidi-Vazeou, A., Olack, B.J., Navalesi, R., Lacy, P.E. - Effect of different temporary immunosuppressive therapies and low-temperature culture on pancreatic islet xenograft survival (Pig-to-Mouse), *Transplant Proc.* 26(2):760-761, 1994

106. di Carlo, A., Scharp, D.W., Gingerich, R.L., Giannarelli, R., Ansara, M., Olack, B.J., Swanson, C.J., Navalesi, R. - Insulin and glucagon release from isolated, perfused human islets following low-temperature culture and cryopreservation, *Transplant Proc.* 26(2):821-822, 1994
107. Marchetti, P., Scharp, D.W., Pfiffner, K., Swanson, C.J., Finke, E.H., Olack, B.J., Gerasimidi-Vazeou, A., McLearn, M., Lacy, P.E. - Cryogenic storage of isolated, purified porcine pancreatic islets, *Transplantation* 57:340-346, 1994
108. Marchetti, P., Kneteman, N.M., Swanson, C.J., Olack, B.J., Scharp, D.W. - Effect of cyclosporin treatment on metabolic and hormonal responses to mixed meal plus oral glucose in dogs with intrasplenic pancreatic islet autograft, *Experimental Medicine*, In Press
109. Marchetti, P., Scharp, D.W., McLearn, M., Gingerich, R., Finke, E.H., Olack, B.J., Swanson, C.J., Giannarelli, R., Navalesi, R., Lacy, P.E. - Pulsatile insulin secretion from isolated human pancreatic islets, *Diabetes* 43:827-830, 1994
110. Shiroki, R., Poindexter, N.J., Woodle, E.S., Hussain, M.S., Mohanakumar, T., Scharp, D.W. - Human peripheral blood lymphocyte reconstituted severe combined immunodeficient (hu-PBL-SCID) mice: a model for human islet allograft rejection, *Transplantation* 58:1555-1562, 1994
111. Scharp, D.W., Swanson, C.J., Olack, B.J., Latta, P.P., Hegre, O.D., Doherty, E.J., Gentile, F.T., Flavin, K.S., Ansara, M.F., Lacy, P.E. - Protection of encapsulated human islets implanted without immunosuppression in patients with Type I and Type II diabetes and in non-diabetic controls, *Diabetes* 43:1167, 1994
112. Marchetti, P., Scharp, D.W., Finke, E.H., Giannarelli, R., Swanson, C.J., Olack, B.J., Lacy, P.E., Navalesi, R. - Factors affecting in vitro and in vivo function of isolated porcine islets, *Transplant Proc.* 26(6):3419-3420, 1994
113. di Carlo, A., Scharp, D.W., Gingerich, R.L., Ansara, M.F., Olack, B.J., Swanson, C.J., Giannarelli, R., Navalesi, R. - C-peptide secretion from isolated perfused human islets: effect of culture and cryopreservation, *Transplant Proc.* 26(6) 3399, 1994
114. Perdrizet, G.A., Rewinski, M.J., Schweizer, R.T., Scharp, D.W. - Heat shock and recovery protects pancreatic islets from warm ischemic injury, *Transplant Proc.* 26(6) 3477-3478, 1994
115. Marchetti, P., Scharp, D.W., Finke, E., Swanson, C.J., Gerasimidi-Vazeou, A., Olack, B.J., Navalesi, R., Lacy, P.E. - Anti-CD4 antibody treatment in xenografts of differently immunomodulated porcine islets, *Transplant Proc.* 26(3):1132, 1994

116. Brennan, D.C., Scharp, D.W., White, N.H., Flavin, K.S., Zukosky, J.M., Ansara, M.F., Cryer, P.E., Lacy, P.E. - Modification of methodology results in improvements in simultaneous kidney-islet success, *Transplant Proc.* 27(1):1349-1350, 1995
117. Chern, H.T., Scharp, D.W. - Successful long-term cryopreservation of highly purified canine islets, *European Surg Res* 27:167-175, 1995
118. Marchetti, P., Scharp, D.W., Finke, E.H., Swanson, C.J., Olack, B.J., Gerasimidi-Vazeou, A., Giannarelli, R., Navalesi, R., Lacy, P.E. - Prolonged survival of discordant porcine islet xenografts, *Transplantation* 61:1100-1102, 1996
119. Hill, R.S., Cruise, G.M., Hager, S.R., Lamberti, F.V., Yu, X., Garufis, C.L., Yu, Y., Mundwiler, K.E., Cole, J.F., Hubbell, J.A., Hegre, O.D., Scharp, D.W. - Immunoisolation of adult porcine islets for the treatment of diabetes mellitus, *Annals of the NY Academy of Sciences* 831:332-343, 1997
120. Cruise, G.M., Hegre, O.D., Scharp, D.W., Hubbell J.A., - A sensitivity study of the key parameters in the interfacial photopolymerization of poly(ethylene glycol) diacrylate upon porcine islets, *Biotech. Bioeng.* 57:655-665, 1998
121. Cruise, G.M., Scharp, D.W., Hubbell, J.A. - Characterization of permeability and network structure of interfacially photopolymerized poly(ethylene glycol) diacrylate hydrogels, *Biomaterials* 19:1287-1294, 1998
122. Cruise, G.M., Hegre, O.D., Lamberti, F.V., Hager, S.R., Hill, R., Scharp, D.W., Hubbell, J.A. - *In vitro* and *in vivo* performance of porcine islets encapsulated in interfacially photopolymerized poly(ethylene glycol) diacrylate membranes, *Cell Transplantation*, 8:293-306, 1999

Letters, Reviews and Chapters:

1. Karl, R., Scharp, D.W., Ballinger, W.F., Lacy, P.E. - Progress Report: transplantation of insulin secreting tissue, *Gut.* 18:1062-1072, 1977
2. Lacy, P.E., Scharp, D.W., Ballinger, W.F. - Transplantation of the islets of Langerhans - future directions. 14th International Congress of Therapeutics, p. 105, L'Expansion Scientifique Francaise, Montpellier, France, 1977
3. Scharp, D.W. - Rejection of islet "isografts" in a strain of Lewis rats, *Transplantation*, 31:229-230, 1981
4. Rajotte, R.V., Scharp, D.W., Molnar, G.D., Preston, R. - Feasibility of low temperature banking for pancreatic islet cell transplantation. In "Islet Isolation, Culture, and Cryopreservation", Ed. K. Federlin and R.G. Bretzel. Thieme-Stratton, Inc., p. 124-135, 1981

5. Scharp, D.W., Downing, R., Merrell, R.C., Nunnally, S., Kiske, D., Grieder, M.H. - New approaches in the methods for isolating mammalian islets of Langerhans utilizing the dog pancreas. In "Islet Isolation, Culture, and Cryopreservation". Ed. K. Federlin and R.G. Bretzel. Thieme-Stratton, Inc. p. 9-31, 1981
6. Slavin, S., Britt, L.D., Scharp, D.W., Lacy, P.E. - Treatment of experimental diabetes with histoincompatible islet allografts in rats conditioned with total lymphoid irradiation. In "Diabetic Renal-Retinal Syndrome", Volume 2. Ed. E.A. Friedman and E.A. L'Experance. Grune and Stratton, Inc., NY, p. 519-528, 1982
7. Chen, Y., Mason, N.S., Scharp, D.W., Ballinger, W.F., Sparks, R.E. - Collagenase immobilized on cellulose acetate membranes. In "Biomaterials: Interfacial Phenomena and Applications". Ed. S.L. Cooper and N.A. Peppas, American Chemical Society, Washington, D.C., p. 483-491, 1982
8. Scharp, D.W. - Hybrid Artificial Pancreas Panel Discussion. Transactions of the American Society for Artificial Internal Organs, 28:642-643, 1982
9. Scharp, D.W. - Clinical Feasibility of Islet Transplantation, International Symposium on Organ Transplantation in Diabetes, The Netherlands 1983, Transplant Proc. 16:820-825, 1984
10. Scharp, D.W., Mason, N.S., Sparks, R.E. - The use of hybrid artificial organs to provide immunoisolation to endocrine grafts. In "Bone Marrow & Organ Transplantation", Ed. S. Slavin, Elsevier Science Publishers, New York, p. 601-618, 1984
11. Scharp, D.W., Long, J.A., Feldmeier, M.M., Olack, B.J., O'Shaughnessy, S., Swanson, C.J. - Automated methods for isolating and purifying islet cells from the pancreas. In "Methods in Diabetes Research", Ed. Larner and Pohl, New York, John Wiley & Sons, p. 237-243, 1984
12. Scharp, D.W., Long, J.A., Feldmeier, M.M., Olack, B.J., O'Shaughnessy, S., Swanson, C.J. - Automated methods of mass islet isolation. In "Methods in Diabetes Research", Ed. Larner and Pohl, New York, John Wiley & Sons, p. 225-236, 1984
13. Slavin, S., Weiss, L., Weigensberg, M., Morecki, S., Fuks, Z., Britt, L., Lacy, P.E., Scharp, D.W. - Tolerance to alloantigens in rodents and reversal of streptozotocin-induced diabetes in tolerant rats by histo-incompatible islet allografts. In "Bone Marrow & Organ Transplantation", Ed. S. Slavin, Elsevier Science Publications, New York, 1984
14. Williamson, J.R., Olack, B., Rowald, E.A., Chang, K., Scharp, D.W. - Effects of insulin treatment on collagen crosslinking in streptozotocin diabetic rats. In "Lessons from Animal Diabetes", Eds. E. Shafir and A. Renold, John Libbey, London, 1984, p. 402-404

15. Lacy, P.E., Scharp, D.W. - Islet Transplantation in treating diabetes, *Ann. Rev. Med.*, 37:33-40, 1986
16. Scharp, D.W. - The elusive human islet: Variables involved in its effective recovery. In "Transplantation of the Endocrine Pancreas in Diabetes Mellitus", Eds. R. van Schifgaarde and M.A. Hardy, Elsevier Science Publications, Amsterdam, 1988, p. 97-107
17. Scharp, D.W., Lacy, P.E. - Islet transplantation: a review of the objective, the concepts, the problems, the progress and the future. In "Transplantation of the pancreas", Eds. J.M. Dubernard and D.E.R. Sutherland, Kluwer Academic Publishers, The Netherlands, 1989, p. 455-478
18. Scharp, D.W., Lacy, P.E. - Clinical islet transplantation. In "Excerpta Medica International Congress Series", Eds. R. Larkins, P. Zimmet, D. Chisholm, Elsevier Science Publishers, Amsterdam, 1989, p. 721-724
19. McCullough, C.S., Scharp, D.W., Lacy, P.E. - Human islet isolation and transplantation. In "Immunologische und Dynamische Aspekte der Insulinsubstitution beim Diabetes Mellitus", Ed. R.G. Bretzel, Springer-Verlag, Heidelberg, 1990, p. 260-267
20. Atkinson, M.A., Maclaren, N.K., Scharp, D.W. - No role for 65KD heatshock protein in diabetes, (Letter) *Lancet* 336:1250-1251, 1990
21. Lacy, P.E., Scharp, D.W. - Islet cell transplantation. In "Diabetes Mellitus", Fourth Edition, Eds. H. Rifkin and D. Porte, Jr., Elsevier Science Publications, New York, 1990, P. 880-886
22. McCullough, C.S., Scharp, D.W. - Pancreas and islet transplantation for the treatment of Type I diabetes mellitus. In "Surgical Management of the Diabetic Patient", Eds. M. Bergman and G.A. Sicard, Raven Press, Ltd., New York, 1991, p. 349-362
23. Scharp, D.W. - Islet Transplantation: Approaches to a Clinical Therapy. In "Perspectives in General Surgery", Vol 3, No. 1, Ed. Barry A. Levine, Quality Medical Publishers, St. Louis, MO, 1992, p. 93-105
24. Scharp, D.W. - Islet quality control testing and the islet isolation laboratory. In "Pancreatic Islet Cell Transplantation", Ed. Camillo Ricordi, R.G. Landes Company, Austin, 1992, p. 82-88
25. Scharp, D.W. - Clinical islet transplantation - registry report, accomplishments in the past and future research needs, Invited Commentary, *Cell Transplantation* 2:299, 1993
26. Scharp, D.W. - Pancreatic Islet Transplantation. In "Atlas of Organ Transplantation, Ed. M. Wayne Flye, W.B. Saunders Company, Philadelphia, PA, 1994, p. 209-220

27. Ansara, M.F., Cryer, P.E., Scharp, D.W. - Perioperative Management of the Diabetic Patient. In "Care of the Surgical Patient", Ed. A. McHugh, Scientific American Medicine, New York, NY, In Press

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☒ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.